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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to remote control of an information processor.

[0002]

[Description of the Prior Art]The method of operating from the former the data stored on the memory storage of other information processors from a certain information processor exists. The conventional method needed the special system for performing data manipulation to both the information processor (it is hereafter described as an instruction information processing unit) which requires data manipulation, and the information processor (it is hereafter described as an execution information processing unit) which performs data manipulation. For example, the program for exclusive use was prepared for each of an instruction information processing unit and an execution information processing unit, and remote control was realized by executing these programs.

[0003]However, there are the following problems in such conventional technology.

[0004]In a small information processor which treats only an E-mail, I hear that the conventional system cannot be used for the 1st problem, and there is. As an example of such an information processor, a small information processor which is not usually called a personal computer, and what is called a Personal Digital Assistant can be mentioned. Many of Personal Digital Assistants cannot be used as an instruction information processing unit, although transmission and reception of an E-mail are possible.

[0005]When the 2nd problem operates by remote control, I hear that it needs to prepare an above-mentioned system for both an instruction information processing unit and an execution information processing unit beforehand, and there is. A usually comparatively small-scale information processor is used as an instruction information processing unit, and such remote control is performed considering a comparatively large-scale information processor as an

execution information processing unit. Composition called the latter of much former, 1, or a small number is taken in many cases. When it is going to operate the arbitrary latters by the arbitrary former, according to conventional technology, an above-mentioned system must be prepared for all both order person's information processors.

[0006]

[Problem(s) to be Solved by the Invention]How to operate other information processors from an information processor [like a Personal Digital Assistant for which only transmission and reception of an E-mail are possible] whose issue which this invention tends to solve is, It is providing the recording medium which recorded the remote control reception program which makes an information processor perform processing which receives the remote control from a Personal Digital Assistant etc., and the information processor which receives the remote control from a Personal Digital Assistant etc.

[0007]

[Means for Solving the Problem]In order to solve an above-mentioned technical problem, this invention provides a recording medium and an information processor which recorded an operation method of an information processor, and a remote control reception program.

[0008]In a remote control method of an information processor which transmits a command to the 2nd information processor that is another side as an operation method of an information processor from the 1st information processor that is one side of two information processors, A stage which creates an E-mail with which the 1st information processor includes a command, and a stage which transmits an E-mail from the 1st information processor to said 2nd information processor, An operation method of an information processor including a stage where the 2nd information processor receives an E-mail, a stage where the 2nd information processor extracts a command from an E-mail, and a stage where the 2nd information processor executes a command is provided.

[0009]An effect of this invention becomes much more remarkable by using a portable information processor as the 1st information processor especially.

[0010]Three kinds of recording media are provided as a recording medium which recorded a remote control reception program.

[0011]In a recording medium with which the 1st recording medium recorded a remote control reception program which makes the 2nd information processor with which the program concerned operates execute a command received from the 1st information processor and which an information processor can read, E-mail reception which receives the 1st E-mail that the 1st information processor transmitted, It is the recording medium which recorded a remote control reception program making the 2nd information processor perform E-mail analysis processing which extracts a command from the 1st E-mail, and instruction-execution processing which makes the 2nd information processor execute a command.

[0012]Processing which creates the 2nd E-mail that recorded a response of on the 1st recording medium and further as opposed to [recording medium / 2nd] said command of the 2nd information processor in a remote control reception program, It is the recording medium which recorded a remote control reception program making the 2nd information processor perform e-mail-transmission processing which transmits the 2nd E-mail to the 1st information processor.

[0013]In a recording medium of either the 1st and a 2nd, the 3rd recording medium analysis processing, Extracting a command of addition of data, change, deletion and reference either, instruction-execution processing is a recording medium characterized by performing either addition of data, change, deletion and reference to data which memory storage connected to the 2nd information processor stores.

[0014]An information processor having an electronic mail analysis means which extracts a command to the information processor concerned from a received E-mail, and an instruction-execution means to make the information processor concerned execute a command, as an information processor in an information processor which can receive an E-mail is provided.

[0015]In this information processor, further, transmitting [an E-mail] origin is made into an address, and an information processor provided with a response mail preparing means which creates an E-mail which recorded an executed result of a command, and an electronic mail sending means is provided.

[0016]It is an information processor provided with memory storage which stores data identified by data address as a more concrete example of composition, In an information processor which receives operation of data manipulation classification of addition of data, change, deletion and reference either from other information processors to data stored in arbitrary data addresses of memory storage, Extract the 1st mail address from an electronic mail receiving means which receives the 1st E-mail transmitted from other information processors which have the 1st mail address, and the 1st E-mail, and. An electronic mail analysis means which extracts write data which is data manipulation classification, a data address, and a data content written in memory storage from the text of the 1st E-mail, A transmission source address preserving means which saves the 1st mail address that an electronic mail analysis means extracted, A data storage means to save either of the read data which is the data contents read from on write data and memory storage, When data manipulation classification which a data-address preserving means which saves a data address which an electronic mail analysis means extracted, and an electronic mail analysis means extracted is an addition, When data manipulation classification which a data addition means to add write data to a data address saved at a data-address preserving means, and an electronic mail analysis means extracted is change, When data manipulation classification which a data change means which changes into write data data saved at a data address saved at a data-address preserving

means now, and an electronic mail analysis means extracted is deletion, When data manipulation classification which a data deletion means to delete data saved at a data address saved at a data-address preserving means now, and an electronic mail analysis means extracted is reference, A data refer means which reads data saved at a data address saved at a data-address preserving means now, and is saved for a data storage means, A replying electronic mail means to create the 2nd E-mail that makes the text contents which make a transmission destination the 1st mail address saved at a transmission source address preserving means, and are saved for a data-address preserving means and a data storage means, An information processor provided with an electronic mail sending means which transmits the 2nd E-mail is provided.

[0017]

[Embodiment of the Invention] Three kinds of embodiments of the invention are mentioned, and are described. A 1st embodiment is a gestalt which transmits a command to an execution information processing unit by E-mail from an instruction information processing unit. A 2nd embodiment is a gestalt which replies a response when an execution information processing unit executes a command to an instruction information processing unit by E-mail. A 3rd embodiment is a gestalt to which an instruction information processing unit carries out data manipulation to the memory storage of an execution information processing unit.

[0018](1) The composition of a 1st embodiment and a 1st embodiment of this invention of operation, It is constituted by networks which connect E-mail 100 and the information processors 200 and 300 which are explained below, and these two information processors, such as the Internet and LAN (Local Area Network).

[0019] Drawing 1 is a block diagram showing the data configuration of E-mail 100 currently generally used. In the E-mail actually used, it has omitted in order to explain simply, although the data component which is not mentioned to this figure may be included. E-mail 100 is provided with the following.

Transmission destination address 101.

Transmission source address 102.

Text 103.

[0020] The transmission destination address 101 stores the identification information assigned to a meaning to the information processor of the transmission destination of E-mail 100, i.e., a mail address. The transmission source address 102 saves the mail address of the information processor of transmitting [an E-mail] origin. The text 103 saves the contents of E-mail 100. When adopting how to use usual, the message to an addressee (human being) is stored in the text 103, but another usage mentioned later is carried out in this invention.

[0021] Drawing 2 is a block diagram showing the composition of the information processor 200

used as an instruction information processing unit. The information processor 200 is provided with the following.

The displays 201, such as a display.

The input devices 202, such as a keyboard.

Electronic mail receiving means 203.

The replying electronic mail means 204, the E-mail preparing means 205, and the electronic mail sending means 206.

[0022]Next, the outline of operation of these each means is explained.

[0023]The electronic mail receiving means 203 receives E-mail 100 transmitted to the information processor 200 from other information processors via the network, and displays the contents of the text 103 on the display 201. The replying electronic mail means 204 analyzes the contents of E-mail 100 transmitted to the information processor 200, and notifies the contents of the transmission source address 102 and the text 103 to the E-mail preparing means 205. The E-mail preparing means 205 creates E-mail 100 based on the information notified from the replying electronic mail means 204, and the information which a user inputs from the input device 202. The electronic mail sending means 206 transmits E-mail 100 created by the E-mail preparing means 205 to the information processor 300 via a network.

[0024]Since the composition of the information processor 200 is limited only for the function about an E-mail, of course, workstations, such as a desktop type and a notebook type, and a personal computer are included, but. Although the function is limited rather than these, the information processor excellent in portability and what is called a Personal Digital Assistant are also included.

[0025]The information processor 300 described in drawing 3 contains the electronic mail receiving means 302, the electronic mail analysis means 303, and the instruction-execution means 304. The electronic mail receiving means 302 receives E-mail 100 (this figure received electronic mail 301) transmitted to the information processor 300 via the network. The electronic mail analysis means 303 analyzes the text 103 of received E-mail 100, and extracts a command. The instruction-execution means 304 makes the information processor 300 execute the command extracted from E-mail 100.

[0026]Next, operation of a 1st embodiment of this invention is explained with reference to drawing 4 and 5.

[0027]First, a user starts the E-mail preparing means 205 (Step 401). After a user sets the mail address of the information processor 300 as the transmission destination address 101 (Step 402) and sets up the command which it is going to make the text 103 execute to the information processor 300 using the input device 202 (Step 403), he starts the electronic mail sending means 206. The electronic mail sending means 206 sets the mail address of the

information processor 200 as the transmission source address 102 (Step 404), and transmits E-mail 100 to the information processor 300 (Step 405).

[0028]It will start the electronic mail analysis means 305, and the electronic mail receiving means 301 will notify the contents of the E-mail to the electronic mail analysis means 305, if E-mail 100 transmitted from the information processor 200 is received (Step 501). The electronic mail analysis means 305 analyzes the contents of notified E-mail 100, extracts a command (Step 502), and notifies a command to the instruction-execution means 304. The instruction-execution means 304 makes the information processor 300 execute a command.

[0029](2) The composition of a 2nd embodiment and a 2nd embodiment of this invention of operation are constituted by networks which connect E-mail 100, the information processors 200 and 600, and these two information processors, such as the Internet and LAN (LocalArea Network).

[0030]The constitutional point of difference of 1st and 2nd embodiments is a point whether an execution information processing unit is the information processor 300 or the information processor 600. If drawing 6 is referred to, the information processor 600 will be further provided with the transmission source address preserving means 604, the replying electronic mail means 606, and the electronic mail sending means 607 as compared with the composition of the information processor 300.

[0031]Next, the outline of operation of these each means is explained.

[0032]The electronic mail receiving means 602 receives E-mail 100 (this figure received electronic mail 601) transmitted to the information processor 600 via the network. The electronic mail analysis means 603 acquires the mail address of the information processor which transmitted E-mail 100 from the transmission source address 101, and analyzes the text 103 and extracts a command. The transmission source address preserving means 604 saves the mail address which the electronic mail analysis means 603 acquired. The instruction-execution means 605 makes the information processor 300 execute the command extracted from E-mail 100, and outputs the response to an instruction execution. The replying electronic mail means 606 creates E-mail 100 which set the contents of the transmission source address preserving means 604 as the transmission destination address 101, and set the response from the instruction-execution means 605 as the text 103. The electronic mail sending means 607 transmits E-mail 100 which the replying electronic mail means 606 created as the transmission electronic mail 608.

[0033]Next, operation of a 2nd embodiment is explained with reference to drawing 7 and 8.

[0034]First, the information processor 200 operates according to the flow chart of drawing 4, and transmits E-mail 100 to the information processor 600 which is an execution information processing unit. Since this operation is the same as the operation previously explained by (1), explanation is omitted.

[0035]The information processor 600 is received using the electronic mail receiving means 602 by using E-mail 100 as the received electronic mail 601 (Step 701). E-mail 100 is passed to the electronic mail analysis means 603. the electronic mail analysis means 603 extracts the transmission source address 101 -- the transmission source address preserving means 604 -- saving (Step 702) -- a command is extracted from the text 103 and the instruction-execution means 605 is passed (Step 703). The replying electronic mail means 606 after executing the command in which the instruction-execution means 605 was passed (Step 704). The mail address of the information processor 200 is made into the transmission destination address 101 (Step 705), and the E-mail which makes the response of the instruction-execution means 605 the text 103 (Step 706) is created at the mail address saved at the transmission source address preserving means 604, i.e., here. The electronic mail sending means 607 transmits after setting up the mail address of the information processor 600 (Step 707) as a transmission source address of this mail, and transmits it to the information processor 200 via a network as the transmission electronic mail 608 (Step 708).

[0036]The electronic mail receiving means 203 of the information processor 200 which received the above-mentioned E-mail from the information processor 600 displays the response of the contents 605, i.e., an instruction-execution means, on (Step 801) and the display 201 (Step 802). Based on the displayed response, a user judges whether transmission of a command is ended, or a command is transmitted again (Step 803). When transmitting a command again, a user starts the replying electronic mail means 204 (Step 804). The replying electronic mail means 204 passes the transmission source address 102 and the text 103 of the mail received from the information processor 600 to an E-mail preparing means (Step 805), The mail address of the information processor 600 is made into the transmission destination address 101 (Step 806), and the E-mail which makes the text 103 the text of a new E-mail is created (Step 807). In this case, a user will transmit a command to the information processor 600 again, after making correction required for the text 103 (Step 808) (Step 404 or subsequent ones).

[0037]Thus, in a 2nd embodiment of this invention, a command is transmitted from the information processor 200 and the response to a command is transmitted from the information processor 600.

[0038](3) The composition of a 3rd embodiment and a 3rd embodiment of this invention of operation are constituted by networks which connect E-mail 100, the information processors 200 and 900, and these two information processors, such as the Internet and LAN (LocalArea Network).

[0039]A 3rd embodiment is an embodiment which formed a means to operate the data of memory storage as the instruction-execution means 605 of a 2nd embodiment. If drawing 9 is referred to, the information processor 9 will be provided with the following.

Electronic mail receiving means 902.

Electronic mail analysis means 903.

Transmission source address preserving means 904.

The data-address preserving means 905, the data storage means 906, the memory storage 907, the data addition means 908, the data change means 909, the data deletion means 910, the data refer means 911, the replying electronic mail means 912, and the electronic mail sending means 913.

[0040]Next, the outline of operation of these each means is explained.

[0041]The electronic mail receiving means 902 receives E-mail 100 transmitted to the information processor 900. The electronic mail analysis means 903 analyzes received E-mail 100. The contents of the transmission source address 102 are saved at the transmission source address preserving means 904, and the contents of a data address and data are taken out from the text 103, and it saves for the data-address preserving means 905 and the data storage means 906, respectively. The transmission source address preserving means 904 saves the mail address of the information processor of transmitting [received E-mail 100] origin. The data-address preserving means 905 saves the identification information (it is henceforth called a data address) assigned at a meaning to the data on the memory storage 907. The data storage means 906 saves the contents of the data written in on the memory storage 907, or the contents of the data read from on the memory storage 907. The data addition means 908 adds the contents of the data storage means 906 to the memory storage 907. The data change means 909 changes the data on the memory storage 907 specified by the data-address preserving means 905 using the contents of the data storage means 906. The data deletion means 910 deletes the data on the memory storage 907 specified by the data-address preserving means 905. The data refer means 911 reads the data on the memory storage 907 specified by the data-address preserving means 905, and saves it for the data storage means 906. The replying electronic mail means 912 saves the contents of the transmission source address preserving means 904 in the transmission destination address 101, and saves the contents of the data-address preserving means 905 and the data storage means 906 in the text 103. The electronic mail sending means 913 transmits E-mail 100 which the replying electronic mail means 912 created to the information processor 200.

[0042]Next, operation of a 3rd embodiment is explained with reference to drawing 4, and 8 and 10.

[0043]** Operation until it transmits E-mail 100 to the information processor 900 from the information processor 200 (see drawing 4).

[0044]A user starts the E-mail preparing means 205 (Step 402). Using the input device 202, a user sets the mail address of the information processor 900 as the transmission destination

address 101, and The kind ("an addition" or "change" or, "deletion" or, and "reference") of data manipulation, The data address of the data which should be operated, and the contents of the data which should be written in (when the kinds of data manipulation are "change", "deletion", and "reference") are set as the text 103 (when the kinds of data manipulation are "an addition" and "change") (Step 403), and the electronic mail sending means 206 is started. The electronic mail sending means 206 sets the mail address of the information processor 200 as the transmission source address 102 (Step 404), and transmits E-mail 100 to the information processor 900 (Step 405).

[0045]** Operation of the information processor 900 which received E-mail 100 (see drawing 10)

The electronic mail receiving means 902 receives the received electronic mail 901 transmitted from the information processor 200 (Step 1001), and notifies the contents of the E-mail to the electronic mail analysis means 903, and it starts the electronic mail analysis means 903. The electronic mail analysis means 903 analyzes the contents of notified E-mail 100 (received electronic mail 901), The contents of the transmission source address 101 are saved at the transmission source address preserving means 904 (Step 1002), The data address which should be operated from the text 103 is taken out, this is saved at the data-address preserving means 905 (Step 1003), the contents of the data which should be written in from the text 103 are taken out, and this is saved for the data storage means 906 (Step 1004). The electronic mail analysis means 903 starts one means of the data addition means 908, the data change means 909, the data deletion means 910, and the data refer means 911 according to the kind of data manipulation of the text 103.

[0046]The data addition means 908 adds the contents of the data storage means 906 to the memory storage 907, and ends processing (Step 1005).

[0047]The data change means 909 rewrites the data on the memory storage 907 specified by the data address saved at the data-address preserving means 905 by the contents of the data storage means 906 (Step 1006), and ends processing.

[0048]The data deletion means 910 deletes the data on the memory storage 907 specified by the data address saved at the data-address preserving means 905, and ends processing (Step 1007).

[0049]The data refer means 911 saves the contents of the data on the memory storage 907 specified by the data address saved at the data-address preserving means 905 for the data storage means 906 (Step 1008), and starts the replying electronic mail means 912. The replying electronic mail means 912 saves the mail address saved at the transmission source address preserving means 904 in the transmission destination address 101 (Step 1009), "Change" is saved as a kind of data manipulation in the text 103 (Step 1010), the contents of the data-address preserving means 905 and the contents of the data storage means 906 are

saved in the text 103 (Step 1011), and the electronic mail sending means 913 is started. The electronic mail sending means 913 saves the mail address of the information processor 900 in the transmission source address 102 (Step 1012), and transmits E-mail 100 to the information processor 200 (Step 1013).

[0050]** Operation of the information processor 200 which received the E-mail from the information processor 900 (see drawing 8)

The electronic mail receiving means 203 receives E-mail 100 transmitted from the information processor 900 (Step 801), and displays the contents of E-mail 100 on the display 201 (Step 802). When a user does not change the data on the memory storage 907, he ends processing (Step 803). When a user wants to change the data on the memory storage 907, a user starts the replying electronic mail means 204 (Step 804). The replying electronic mail means 204 notifies the contents of the transmission source address 102 and the text 103 to the E-mail preparing means 205 (Step 805), and starts the E-mail preparing means 205. The E-mail preparing means 205 saves the contents of the notified transmission source address 102 in the transmission destination address 101 (Step 806), and saves the contents of the notified text 103 in the text 103 (Step 807). Then, a user changes the contents of the data which the text 103 should write in using the input device 202 (Step 808), and starts the electronic mail sending means 206 (Step 404 of [drawing 4](#) is followed hereafter).

[0051]** Transmit the E-mail which set up "the addition" as a kind of data manipulation and set "12345" as the text 103 as data to the information processor 900 to add data "12345" to the memory storage 907 as shown in example [drawing 11](#) of E-mail 100.

[0052]To change the data of data-address "FFEEDDCC" of the memory storage 907 into "12345" as shown in [drawing 12](#). The E-mail which set up "FFEEDDCC" as a data address and set up "12345" for "change" as data is transmitted to the text 103 as a kind of data manipulation at the information processor 900.

[0053]The E-mail which set up "deletion" as a kind of data manipulation and set "FFEEDDCC" as the text 103 as a data address is transmitted to the information processor 900 to delete the data of data-address "FFEEDDCC" of the memory storage 907 as shown in [drawing 13](#).

[0054]The E-mail which set up "reference" as a kind of data manipulation and set "FFEEDDCC" as the text 103 as a data address is transmitted to the information processor 900 to refer to the data of data-address "FFEEDDCC" of the memory storage 907 as shown in [drawing 14](#). If the information processor 900 receives the E-mail of [drawing 14](#), it will read the data of data-address "FFEEDDCC" from the memory storage 907, and will reply the E-mail shown in [drawing 15](#) to the information processor 200. The information processor's 200 reception of the E-mail of [drawing 15](#) will display the contents of the E-mail on the display 201. Since the E-mail of [drawing 16](#) will be created if a user starts the replying electronic mail means 204, When a user wants to change the data of data-address "FFEEDDCC" into "98765"

from "12345", as shown in drawing 17, data is changed into "98765" from "12345", and the E-mail of drawing 17 is transmitted to the information processor 900.

[0055]As mentioned above, although this invention was explained based on the embodiment, this invention is not limited to this and it is needless to say for the change and improvement to be possible within the limits of a person's skilled in the art usual knowledge.

[0056]

[Effect of the Invention]When the effect of this invention controls the information processor of another side from one information processor, it is being able to use an E-mail and being able to notify a command. In order to use an E-mail, it becomes unnecessary [a system special as an instruction information processing unit], and it becomes possible to use a notebook computer and a Personal Digital Assistant as an instruction information processing unit.

[Translation done.]